

IN THE SPECIFICATION

Please amend the paragraph at page 5, lines 14-18 to read as follows:

The present invention is made under the above-mentioned situation. The purpose of the present invention is to provide the position detecting methods and the apparatuses thereof for detecting the positional information of the mark formed on the [[substance]] object precisely.

Please amend the paragraph at page 5, line 26 through page 6, line 7 to read as follows:

In the first aspect of the present invention, the present invention is a position detecting method for detecting positional information of a mark formed on a substance an object, comprising the steps of: picking-up at least one image of the mark under the image pick-up condition including a plurality of defocus states; obtaining a relationship between picked-up image state of said mark and said defocus amount, based on image pick-up results in the image pick-up condition; and detecting the positional information of the mark based on the relationship.

Please amend the paragraph at page 9, line 18 through page 10, line 1 to read as follows:

In the second aspect of the present invention, the present invention is the position detecting apparatus for detecting a positional information of a mark formed on a substance an object, comprising an imaging optical system for forming an image of the mark; an image pick-up unit for picking-up the image of the mark formed by the imaging optical system; and

a processing unit for obtaining the relationship between picked-up image state of the mark and defocus amount based on the image pick-up results by using the image pick-up unit under the image pick-up condition including a plurality of defocus states, wherein the processing unit is electrically connected to the image pick-up unit.

Please amend the paragraph at page 16, lines 12-22 to read as follows:

Fig. 1 shows the schematic arrangement of the exposure apparatus 100 according to one embodiment of the present invention. The exposure apparatus 100 is a step-and-scan type projection exposure. The exposure apparatus 100 comprises: the illumination system 10 for emitting illumination light for exposing the wafer; reticle stage RST serving as a mask stage for holding the reticle R as a mask; a projection optical system PL; the wafer stage WST for mounting a wafer on it; the wafer W (as a sample for the substrate or [[substance]] object); the alignment system AS as an image pick-up unit, and the main control system 20 for controlling the entire of the apparatus.

Please amend the paragraph at page 24, line 25 through page 25, line 6 to read as follows:

Recently, since the circuit of the semiconductor became finer, in order to form the fine circuit pattern more precisely, the process for averaging the surface of each layer formed on the wafer W has been employed. The representative process is CMP process (chemical and mechanical polishing process), in which polishing the surface of the film formed to flatten the coating surface. CMP process is sometimes applied on the inter-layer insulating film (which is made of dielectric [[substances]] objects such as silicon dioxide) in the wiring layers (which is made of metals) of the semiconductor integrated circuit.

Please amend the paragraph at page 44, lines 9-20 to read as follows:

In the above-mentioned embodiment, the position detection of the position mark formed on the wafer and the positioning of the wafer in exposure apparatus are explained. However, the position detection and positioning in which the present invention is applied might be employed for the position detection of the positioning mark formed on the reticle, or positioning of the reticle. Furthermore, the position detection and positioning are applicable to the apparatus except exposure apparatus, for example, the observation apparatus for the [[substance]] object by using the microscope or the like, the positioning apparatus for the object in the assembly line, the modification line, or inspection line in the factory.

Please amend the paragraph at page 44, line 25 through page 45, line 6 to read as follows:

Fig. 12 is a flow chart showing an example of manufacturing a device (a semiconductor chip such as an IC, or LSI, a liquid crystal panel, a CCD, a thin film magnetic head, a micromachine, or the like). As shown in Fig. 12, in step 301 (design step), function/performance is designed for a device (e.g., circuit design for a semi conductor device) and a pattern to implement the function is designed. In step 302 (mask manufacturing step), a mask on which the designed circuit pattern is formed is manufactured. In step 303 (wafer manufacturing step), a wafer W is manufacturing by using a substance an object such as silicon.